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10/696,093	10/29/2003	Sheau-Hwa Ma	FA1131 US NA	6629

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EXAMINER

TSOY, ELENA

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 11/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/696,093

Applicant(s)

MA ET AL.

Examiner

Elena Tsoy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>3/04, 6/04</u> . | 6) <input type="checkbox"/> Other: _____ |

Specification

1. The disclosure is objected to because of the following informalities: page 2, lines 11-14, “However, one of the problems associated with conventional methods, such as those disclosed in U.S. Pat. No. 5,506,325 attempts to improve rheology control to alleviate sag problems that adversely affect the flop of metallic paints” seems to be incorrect because the sentence seems to be incomplete. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 4, 15, 16, and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Language of Claim 4 is confusing because sentence is incomplete. For examining purposes Claim 4 was interpreted as “The process of claim 1 or 3, wherein said curing step takes place under elevated temperatures”.

Claims 15 and 16 recite a phrase “accelerating said (d) step by adding a catalytically active amount”, which renders the claim indefinite because it is not clear how catalyst may accelerate step of **applying**. For examining purposes the phrase was interpreted as “accelerating said (e) step by adding a catalytically active amount”.

Claims 15 and 16 recite a phrase “adding ... catalyst to said composition”, which renders the claim indefinite because it is not clear to which of two compositions recited in claim 1 catalyst

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is added. For examining purposes the phrase was interpreted as "adding ... catalyst to said clearcoat composition".

Claim 21 recites "said composition", which is confusing because it is not clear to which of two compositions recited in claim 1 it refers. For examining purposes the phrase was interpreted as "said clearcoat composition".

Double Patenting

4. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

5. Claims 1-21 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims of copending Application No. 10/351,352. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swarup et al (US 5506325).

Swarup et al disclose a process for producing a multi-coat system on a substrate (See column 6, lines 17-21) comprising applying a base coat to a substrate, driving solvent, i.e., organic solvent or water, out of the base coat film by heating for a short period of time or by an air drying period (claimed flashing) (See column 9, lines 57-60), applying a clear top coat composition to the base coat by e.g. spray applications via a **wet-on-wet** technique before the base coat has been cured (See column 10, lines 6-10), then heating two coatings to conjointly cure both coating layers (See column 10, lines 12-15). The base coat composition is formed by adding to any coating composition useful in automotive applications (See column 6, lines 22-25) an acid functional acrylic copolymer polymerized from a monomer mixture comprising 3 weight percent to 6 weight percent of carboxylic acid group containing monomer based on total weight of the acid functional acrylic copolymer (See column 2, lines 9-10, 16-18; column 3, lines 37-47) and hydroxyl or epoxy functional monomers (See column 3, lines 47-67); and up to 2.5 weight percent of amorphous silica based on total weight of resin solids of the base coat composition (See column 5, lines 63-67). The automotive coating composition comprises a crosslinkable binder such as hydroxylethyl acrylate (See column 6, lines 26-33, 45-47) and a crosslinking agent such as aminoplast (claimed melamine) or polyisocyanate including **blocked** polyisocyanate (See column 6, lines 47-51).

Swarup et al do not expressly teach that the base coat composition may also be formed by combining a crosslinking agent such as aminoplast or polyisocyanate with a crosslinkable component shortly before application. However, it is well known in the art that **blocked** polyisocyanate is used when a binder is capable of reacting with polyisocyanate curing agent before application to a substrate. Obviously, instead of using a blocked polyisocyanate, polyisocyanate may be combined with a binder shortly before application forming a pot-mix, as required by step a) of Claim 1.

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It is the Examiner's position that the composition would form a strike-in resistant layer because it is formed by a process and a composition substantially identical to those of claimed invention.

As to claim 2, Swarup et al teach that suitable drying conditions will depend on the particular base coat composition, and on the ambient humidity with certain waterbased compositions, but in general a drying time of from about 1 to 5 minutes at a temperature of about 80⁰-250⁰F (20⁰-121⁰C) will be adequate to ensure that mixing of the two coats is minimized, but at the same time, the base coat film is adequately wetted by the topcoat composition so that satisfactory intercoat adhesion is obtained (claimed flashing) (See column 9, lines 60-68). Also, more than one base coat and multiple top coats may be applied to develop the optimum appearance. Usually between coats, the previously applied coat is **flashed**; that is, exposed to ambient conditions for about 1 to 20 minutes. See column 10, lines 1-5. Obviously, time and temperature in drying process are effective variables.

It is held that it is not inventive to discover the optimum or workable ranges of result-effective variables by routine experimentation. In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). See also In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have determined the optimum values of the relevant time and temperature parameters (including those of claimed invention) in Swarup et al depending on particular coating composition through routine experimentation in the absence of showing of criticality.

As to claims 5-6, it is well known in the automotive coating art that a metal substrate is first coated with E-coat followed by a primer before applying a base coat.

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As to claim 7, the acid functional acrylic copolymer has a GPC weight average molecular weight ranging from 7,000 to 18,000 (See column 5, lines 16-21). It is the Examiner's position that a polydispersity of the acid functional acrylic copolymer is within claimed range of from 1.05 to 10.0 because Swarup et al prepared it in a process (See column 5, lines 1-15) substantially identical to that of claimed invention (See specification, page 6, lines 32-37).

As to claim 8, It is the Examiner's position that the acid functional acrylic copolymer has Tg ranging from -5.degree. C. to +100.degree. C because it has GPC weight average molecular weight within claimed range.

As to claims 9-11, the monomer mixture comprises 80-90 % of aliphatic or aromatic monomers unsubstituted or substituted with *hydroxyl* functionality such as methacrylates or styrene (See column 2, lines 1-9).

It is held that concentration limitations are obvious absent a showing of criticality. Akzo v. E.I. du Pont de Nemours 1 USPQ 2d 1704 (Fed. Cir. 1987).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have determined the optimum values of the relevant concentration parameters of methacrylates (including 5-40 % of claimed invention) in Swarup et al depending on particular coating composition through routine experimentation in the absence of showing of criticality.

As to claims 13-14, It would have been obvious to one of ordinary skill in the art at the time the invention was made to have determined the optimum values of the relevant concentration parameters of (including those of claimed invention) in Swarup et al depending on particular coating composition through routine experimentation in the absence of showing of criticality.

As to claims 15-16, The clear coating composition may be formed as one-package composition (See column 8, lines 52-55) or multi-package composition in which a polyacid curing

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agent (See column 8, lines 66-67) is combined shortly before application (See column 9, lines 1-3).

As to claim 17, the coating composition comprises pigment (See column 7, lines 47-67).

As to claims 18-19, The colored film-forming composition can be **any** of the compositions useful in coatings applications, particularly *automotive* applications (See column 6, lines 22-25). Since Swarup et al do not limit to particular *automotive* applications, it would have be obvious to one of ordinary skill in the art at to use in OEM composition or refinish composition.

As to claim 20, the coating composition may be used on an automobile body (See column 1, lines 36-37).

As to claim 21, The coating compositions are preferably liquid high solids coating compositions, that is, compositions containing greater than 40 percent, preferably greater than 50 percent by weight resin solids (See column 5, lines 43-46), and are *aqueous* based compositions (See column 5, lines 27-33).

8. Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barsotti (US 4411951) in view of Swarup et al.

Barsotti discloses a process for producing a clear coat/color coat finish for substrates (See column 7, lines 44-45) such as automobile finishes (See column 7, lines 37-40) comprising applying a color coat to a primer (See column 9, lines 52-53), applying a clear coat to the color coat while the color coat is still **wet** (See column 8, lines 60-63) and baking the coatings (See column 7, lines 25-27). The clear coat is a transparent coating composition and the color coat is of the *same* coating composition but containing pigments in a pigment (See column 7, lines 47-52). To insure that there will be no popping or cratering of the finish is to allow the solvents to flash off for about 15-30 seconds before a second coating is sprayed on or otherwise applied, then

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waiting from about 2-10 minutes before baking the coating to allow any residual solvents to flash off (See column 7, lines 27-34). The coating composition comprises 30-60% by weight of a non-aqueous liquid carrier and about 40-70% by weight of a binder, the binder being preferably an acrylic polymer having carboxyl groups, hydroxyl groups, amide groups glycidyl groups or a mixture of any of these groups and a number average molecular weight of about 500-30,000 (See column 3, lines 11-15) and a glass transition temperature of about -20°C to $+25^{\circ}\text{C}$ (See column 4, lines 15-16), and a melamine crosslinking agent (See column 3, lines 15-16); about 0.1-10% by weight, based on the weight of the binder, of a rheology control additive which consists essentially of about 80-99.5% by weight, based on the weight of the rheology control additive, of fumed colloidal silica (claimed amorphous silica) (See column 9, lines 17-18) and 0.5-20% by weight, based on the weight of the rheology control additive, of polyethylene glycol (See column 1, lines 54-68), and about 0.1-2.0% by weight based on the weight of the binder of an acid catalyst (See column 3, lines 16-18). The preferred acrylic polymers are made of an alkyl methacrylate, a hydroxy alkyl methacrylate, and 0.1-5% by weight of ethylenically unsaturated carboxylic acid, such as acrylic acid, methacrylic acid (See column 3, lines 37-48).

Barsotti fails to teach that the coating composition may be formed by combining a melamine crosslinking agent with a crosslinkable component shortly before application. However, Swarup et al teach that crosslinkable compositions may be formulated as one-pack (See column 8, lines 52-55) or multi-pack compositions depending upon the reactivity of the individual components (See column 8, lines 66-67; column 9, lines 1-4). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to formulate a coating composition of Barsotti as a two-pack composition depending on reactivity of components.

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It is the Examiner's position that the composition would form a strike-in resistant layer because it is formed by a process and a composition substantially identical to those of claimed invention.

As to limitations of dependent claims, see above.

As to claim 21, Barsotti fails to teach that the coating composition is based on water.

However, it is well known in the art that environmentally benign aqueous coating compositions are more desirable. Swarup et al teach that a binder may be used in an organic based composition or acid groups of a binder may be *neutralized* with amines to render the binder dispersible in water to be used in aqueous based compositions (See column 5, lines 23-33).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have *neutralized* acid groups of a binder of Barsotti to render the binder dispersible in water to be used in aqueous based compositions, as taught by Swarup et al.

9. Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swarup et al/ Barsotti in view of Swarup et al/, further in view of Hazan et al (US 5,244,696).

Swarup et al/ Barsotti in view of Swarup et al/ fail to teach that a metal substrate is first coated with E-coat followed by a primer before applying a base coat.

Hazan et al teach that a *typical* automobile steel panel or substrate has several layers of coatings. The substrate is *typically* first coated with an inorganic rust-proofing zinc or iron phosphate layer over which is provided a primer which can be an electrocoated primer, a primer surfacer can be applied over the primer coating to provide for better appearance and/or improved adhesion of the basecoat to the primer coat. See column 2, lines 49-61.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have produced first typical E-coat on a *typical* automobile steel panel or substrate

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followed by a by primer before applying a base coat in Swarup et al/ Barsotti in view of Swarup et al/, as evidenced by Hazan et al.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy whose telephone number is 571-272-1429. The examiner can normally be reached on Monday-Thursday, 9:00AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Elena Tsoy
Primary Examiner
Art Unit 1762

**ELENA TSOY
PRIMARY EXAMINER**



November 22, 2006